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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DIEP, NHON THANH	

ART UNIT	PAPER NUMBER
2613	7

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/807,620	CURET ET AL.	
	Examiner	Art Unit	
	Nhon T Diep	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9* is/are rejected.

7)☒ Claim(s) *8 and 10-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6; 7/16/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 6, 9 and 10 are objected to because of the following informalities: Claim 6 and similarly claims 9 and10 recite "said replacement B pictures are interleaved pictures comprising a BOTTOM frame and a TOP frame which thereby are similar to digital television pictures and their predictions are field-based predictions, the TOP frames and the BOTTOM frames of said B replacement pictures referring to the single BOTTOM frame of the last predictive picture P of the first-program video component."

It is believed that, as a matter of typo errors, all underlined frames (frame(s)) will be read as field(s), since it is a common knowledge that a frame comprises of two fields: a top (or odd) field and a bottom (or even) field. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1- 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Hurst, Jr. (US 6,038,000).

Hurst, Jr. discloses an information stream syntax for indicating the presence of a splice point comprising the same method of switching video component(s) of a first digital audio-visual program onto video component(s) of a second digital audio-visual program, each video component including [in the order of presentation, an ordered sequence of pictures which are either Intra pictures (denoted by I) or predictive pictures (denoted by P) or bidirectional pictures (denoted by B), each Intra picture referring to no other picture, each predictive picture referring to the Intra picture or to the predictive picture preceding it, each bidirectional picture being able to refer to two non-bidirectional pictures Intra or P, either to the Intra picture or to the predictive picture preceding it or to the Intra picture or the P picture following it, or to a combination of the two preceding or following Intra or predictive pictures (MPEG compliant bitstream, col. 9, ln. 29-32), the method comprising

(a) switching at a switching time following the end of a picture of the first program after the switch command onto the picture of the video component of the second program which is present at said time (col. 5, ln. 6-30) and (b) replacing, as seen in the order of transmission, each picture other than Intra of said second program component, where said latter picture is situated between the switching time and the beginning of the next Intra picture of said second program component, with a picture having the coding

thereof being carried out independently of the picture data of the replaced picture and of the contents of the pictures to which the replacement picture refers (col. 4, ln. 25-26) as specified in claim 1; replacing (a) the information present in the second-program video component between the time at which the end of a picture of the first-program video component has been encountered after having received the switch command and the beginning of the first picture of the second program with (b) stuffing data (col. 14, ln. 63 – col. 15, ln. 11) as specified in claim 2; updating the time references of each replacement picture (col. 13, ln. 46-57) as specified in claim 3; and including retrieving the information relating to the minimum delay Vbv before it is possible to decode a picture from the replaced picture and moving, the information relating to the minimum delay Vbv before it is possible to decode a picture from the replaced picture, into each corresponding substitution picture unless it be equal to 'FFFF in the other pictures of said second program component, in which latter case it assumes the value 'FFFF (col. 12, ln. 48-56) as specified in claim 4.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst, Jr., in view of Mitchell (XP-002098501, page 355, ln. 31-34), cited by the applicants.

As applied to claim 1 above, Hurst, Jr. further discloses that if the second picture of the replaced picture is a B-frame, the B-frame may not reference frames prior to the in-point (col. 4, ln. 28-29); and the replacement pictures are included in a sequence of pictures which as seen in the direction of transmission includes a predictive picture followed by one or more bidirectional pictures, the predictive replacement picture P referring to the last predictive picture P of the first-program video component and each of the bidirectional pictures B referring to said replacement picture P (col. 14, ln. 43-56) as specified in claim 7; however, it is noted that Hurst, Jr. does not particularly disclose that and further including resetting to a zero value the motion estimating vectors of each of the bidirectional replacement pictures as specified in claims 5, 7. Mitchell teaches that if a B picture is to be repeated, the motion vectors relative to the predicting picture are set to zero. Therefore, it would have been obvious to one or ordinary skilled in the art at the time the invention was made to use B-frame pictures following the I-frame picture of the "to-stream" and to set motion vector value to zero as taught by Mitchell. Doing so would help to reduce bandwidths in coding the to-stream MPEG compliant stream.

6. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst, Jr., in view of Mitchell (XP-002098501, page 355, ln. 31-34), and further in view of McVeigh et al (US 6,408,029).

As applied to claims 5 and 7 above, it is noted that the combination of Hurst, Jr. and Mitchell does not particularly disclose that the replacement B pictures are interleaved pictures comprising a BOTTOM field and a TOP field which thereby are

similar to digital television pictures and their predictions are field-based predictions, the TOP fields and the BOTTOM fields of said B replacement pictures referring to the single BOTTOM field of the last predictive picture P of the first-program video component as specified in claims 6 and 9. McVeigh et al, teaches that If the frame sequence contains interlaced content, field prediction is also performed in calculating the motion vector and that the top (odd) field 414 and bottom (even) field 412 of the B-frame 410 is predicted from the bottom (even) 404 of the prior I frame 402 (col. 3, ln. 4-20) and it also notice that since the last frame of the first program is coded as a P frame (can not be coded as B frame with prediction from the following I or P frame and would need a lot more bandwidth to code as an I frame) and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Hurst, Jr. and Mitchell, in the case of field based prediction, using the bottom field of the P frame of the first-program video component to predict the TOP field and the BOTTOM field of the B replacement pictures. Doing so would help to avoid discontinuity.

Allowable Subject Matter

7. Claims 8, 10-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The various related prior art of record does not anticipated or render obviousness:

With regard to claims 8 and 10: the number of bidirectional pictures B between two predictive pictures P being equal to that encountered in the first-program video component and setting to a zero value the motion estimating vectors of each replacement picture except for the Intra picture which lacks motion estimating vectors and as in combination with other limitation in claims 1+8 and 1+10.

With regard to claim 12: the method is performed with a transmission system for transporting said pictures transport packet streams, each transport packet stream including video components of the first and second programs-, each transport packet TP including a payload unit start PUSI indicator which, when set at 1, indicates that said packet contains the beginning of a packetized elementary stream PES packet, the PES packets being aligned with the beginning [the] payloads of the transport packets TP, each PES packet containing only one picture, certain transport packets in said transmission system being arranged to carry a random access transport indicator RAI which, when set at 1, denotes that the next transport packet moving this component contains the first data of a video sequence, the method further comprising :

determining the first transport packet TP of the first program video component after the switch command, said packet comprising a random access indicator RAI set at 1 in order to determine the time of switching onto the second program,

switching onto said second-program video component and replacing the transport packets TP of this video component with stuffing transport packets until the appearance of the following transport packet TP of which the PUSI indicator is set at 1,

within this transport :packet TP of which the PUSI indicator is set at 1 and if the RAI indicator is not set, replacing the PES packet header situated at the beginning of the payload with a reconstructed PES packet header,

starting with this transport packet and after the PES packet header, replacing the payload data of each transport packet of this component with the replacement picture data, when all replacement picture data have been inserted into the payload of the video component transport packets TP, replacing the payload data of the following transport packets TP of the component with video stuffing until the appearance of the next transport packet of this second-program video component of which the PUSI indicator is set at 1, this transport packet TP excluded,

then restarting the preceding stage from this transport packet TP with the PUSI indicator set at 1 until the appearance of the next transport packet TP of the second - program video component of which the random access indicator RAI is set at 1, this transport packet excluded,

setting the discontinuity indicator DI at 1 on this packet with random access indicator RAI which corresponds to the end of replacement and to the effective beginning of the second program video as specified in claim 12.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Gardere et al (US 6,678,332) discloses a seamless splicing of encoded MPEG video and audio.

b. Ashley et al (US 6,584,273) discloses a frame-accurate editing of encoded A/V sequence.

c. Wine et al (US 6,137,834) discloses a method and apparatus for splicing compressed information streams.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T Diep whose telephone number is 703-305-4648. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on 703 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ND
22 June 2004

NHON DIEP
PRIMARY EXAMINER